## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

## (10) International Publication Number WO 2004/052882 A1

(51) International Patent Classification<sup>7</sup>: C07D 401/12, 471/04

(21) International Application Number:

PCT/EP2003/013605

- (22) International Filing Date: 3 December 2003 (03.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02027273.8 103 40 255.1 6 December 2002 (06.12.2002) EP 29 August 2003 (29.08.2003) DE

- (71) Applicant (for all designated States except US): ALTANA PHARMA AG [DE/DE]; Byk-Gulden-Str. 2, 78467 Konstanz (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KOHL, Bernhard [DE/DE]; Zum Brühl 9, 78465 Konstanz (DE). MÜLLER, Bernd [DE/DE]; Bücklestr. 84a, 78467 Konstanz (DE). WEINGART, Ralf Steffen [DE/DE]; Thingoltstr. 34, 78465 Konstanz (DE).
- (74) Agent: WOLF, Ulrich; Altana Pharma AG, Byk-Gulden-Str.2, 78467 Konstanz (DE).

- (81) Designated States (national): AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, EG, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW.
- (84) Designated States (regional): Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

## Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, EG, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, VN, YU, ZA, ZW, Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR)
- of inventorship (Rule 4.17(iv)) for US only

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR PREPARING OPTICALLY PURE ACTIVE COMPOUNDS

(57) Abstract: The invention relates to a novel process for preparing optically pure PPI having a sulphinyl structure using a chiral zirconium complex or a chiral hafnium complex.